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CURRENT LITERATURE

BOOK REVIEWS

Phylogeny of plants

The first volume of LOTSY's huge work, dealing with the thallophytes, was published in 1907 and was noticed in this journal.[1] The second volume has now appeared[2] and includes the "archegoniates." The speed at which such large volumes have been organized for publication, and the extensive range of literature traversed in compiling the facts and the illustrations, are both impressive. But no one man can deal authoritatively with the whole plant kingdom, and the wisdom of so comprehensive a plan by one author is questionable. If it be undertaken, the usefulness of the work depends upon his appreciation of the relative values of investigations, his general perspective, and his organizing power. LOTSY has stood this test as well as could be expected, and although there are abundant grounds for criticism, the book is on the whole a fairly logical and copiously illustrated digest of the current literature. It will serve as a useful encyclopaedia of general information in reference to the present knowledge of bryophytes, pteridophytes, and gymnosperms, and the current speculations regarding them. Of course the whole thesis is the evolution of the plant kingdom.

The chief criticism must fall undoubtedly on the sometimes radical changes proposed in classification on debatable grounds, and on the author's conceptions of phylogeny, which others may be disposed to consider erratic. Thus, in the bryophytes, Anthoceros is accorded the status of the most primitive liverwort, on the ground that it is nearest the algae in having in each cell only one chloroplast and this furnished with a pyrenoid. Then, having discussed Riccia as the liverwort with the simplest sporophyte and Sphaerocarpus as "the simplest known liverwort," LOTSY predicates a "Sphaeroriccia" as the hypothetic *Urform*, from which Anthocerotales, Marchantiales, and "Metzgeriales" separately sprang, the latter spraying out into the Jungermanniales (Acrogynae).

The portion of the volume dealing with pteridophytes (318 pp.) and the "polyciliate" gymnosperms (80 pp.) gives opportunity to add to the older data an unusually large volume of recent work, and LOTSY does not hesitate to formulate here also his own theories, even in connection with groups in which he has done no investigation. The following statements may be taken as illustrations:

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[1] BOT. GAZETTE 43:421. 1907.

[2] LOTSY, J. P., Vorträge über botanische Stammesgeschichte, gehalten an der Reichsuniversität zu Leiden. Ein Lehrbuch der Pflanzensystematik. Zweiter Band: Cormophyta Zoidogamia. Imp. 8vo. pp. 902. *figs. 553*. Jena: Gustav Fischer. 1909. *M* 20.

"We can think of Marattia as having come from Angiopteris by the fusion of sporangia"; "the fertile spike of Botrychium is not a whole leaf, but only a branch of the foliage leaf"; "Marattiales and Cycadofilices are two branches differentiated from Primofilices."

The taxonomic groupings in certain particulars seem to be more original than necessary. The Sphaerocarpaceae, including as a tribe the Rielleae, appear among the Marchantiales; the Jungermanniales Anacrogynae have become the Metzgeriales, leaving the Acrogynae only as the Jungermanniales; and many novel arrangements appear in the Bryales, which cannot be stated in detail. Of course the vascular groups presented are all "Diploidales," and the two principal divisions are the *Biciliaten* and the *Polyciliaten*. This naturally results not only in detaching Isoetes from the Lycopodiales, but also subordinates the boundary between pteridophytes and spermatophytes. There may be no objection to either of these results, but the single character used to secure them is more than questionable.

The bibliography is copious, but by the method of its presentation it is repetitious and not specific; nor is it so complete in its citations as one would expect from the editor of a bibliographical journal. The index is unfortunately double, but otherwise excellent, and puts the reader in easy command of the contents.—J. M. C. and C. R. B.

MINOR NOTICES

A flora of the Dutch West Indies.[3]—The first volume of this work deals with the flora of the islands of St. Eustatius, Saba, and St. Martin. The work is divided into three parts. The first part is concerned with taxonomy, the second presents a historical account of the flora, and the third deals with the phytogeography of the islands. The taxonomic portion is based mainly on the collections of SURINGAR, VAN GROL-MEYERS, LIONARONS, and BOLDINGH, whose collections are deposited either in the Rijks herbarium at Leiden, the herbarium at Utrecht, the Colonial Museum at Haarlem, or in the herbarium of KRUG and URBAN at Berlin. The sequence of the families and genera is essentially that of DE DALLA TORRE and HARMS'S *Genera Siphonogamarum*, and the nomenclature is in accordance with the International Rules adopted at Vienna in 1905. The taxonomy occupies the major part of the volume, covering over 200 pages, and consists of an enumeration of the species with reference to original publications, a very limited synonomy, and the citation of plants collected on the different islands. About 500 genera and approximately 800 species are recorded. The second part contains interesting and important historical matter, particularly as to itineraries of collectors and lists of their plants. The third part embraces detailed information as to the natural features of the islands, a series of tables on distribution, a bibliography, and finally an index to vernacular and scientific

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[3] BOLDINGH, I., The flora of the Dutch West Indian Islands St. Eustatius, Saba, and St. Martin. Roy. 8vo. pp. xii+321. *maps 3*. Leiden: E. J. Brill. 1909.